

**REMARKS**

Claims 1-11 are pending in this application with claims 2, 3 and 6-11 having been withdrawn from consideration. By this Amendment, claims 1, 4 and 6 have been amended. Claim 1 is independent. Reconsiderations of the application is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 because the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution; and (c) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

**I. Amendment**

Support for the amendment to claim 1 can be found in the specification at, for example, paragraphs [0027] and [0029]. Claim 6 is amended to correct antecedent basis issues and claim 4 is amended to correct a minor typographical error. No new matter is added.

**II. Interview**

Applicants appreciate the courtesies shown to Applicants' KIANNI, K. by Examiner Kianni in the January 28, 2009 telephone interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

**III. The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1, 4 and 5 under 35 U.S.C. §103(a) over Japanese Patent Publication No. 2002-084037 to Tatsuya. This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, "a plane shape of each modified refractive index area is a polygon whose corners are removed so that an area fraction FF of the modified

refractive index areas in the body is enhanced." The applied reference fails to teach or render obvious the recited features of independent claim 1.

**A. The Advantages of the Corners Being Removed**

As discussed and acknowledged during January 28, 2009 telephone interview, the corners being removed overcome Tatsuya upon showing novel characteristics. Since the corners are removed in the present application, the design enables the FF value to be larger than for photonic crystals without this feature. The arc-shaped corners of the equilateral triangle increase the corner-to-corner distance between the neighboring holes. Namely the connecting portion of the body between the neighboring holes becomes widened. See paragraphs [0027] and [0029] of the specification. Thus, Tatsuya fails to disclose or render obvious the recited features of independent claim 1.

**B. Tatsuya Does Not Solve the Problems of the Present Application**

Furthermore, the Office Action asserts that Fig. 8 of Tatsuya's relates to the structure of the two-dimensional photonic crystal of the present application. However, Fig. 8 of Tatsuya discloses holes or modified refractive index areas that are circular, which have nothing to do with the modified refractive index areas of the present application which are substantially a polygon. See paragraphs [0040] and [0042] of Tatsuya.

In Fig. 7(b), Tatsuya forms a zinc oxide pillar 1 within each of the holes 53. In this case, the modified refractive index areas of the two-dimensional photonic crystal is formed by the circular air (hole 53) and the polygonal zinc oxide pillar 1 is formed within the hole 53. Tatsuya's modified refractive index area has a complex structure, and the "shape" of the modified refractive index area is irrelevant. In such a case, the problems of the present application do not occur with the crystal of Tatsuya. Thus, Tatsuya does not solve the problems of the present application. Tatsuya fails to teach or render obvious the recited features of independent claim 1.

The dependent claims are patentable at least due to their dependence on allowable independent claim 1 and for the additional features they recite.

Accordingly, withdrawal of the rejection of the claims is respectfully requested.

**IV. Rejoinder**

Applicants respectfully request rejoinder of withdrawn claims 2, 3 and 6-11 upon allowance of independent claim 1.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Obert H. Chu  
Registration No. 52,744

JAO:OHC/jth

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**OLIFF & BERRIDGE, PLC**  
**P.O. Box 320850**  
**Alexandria, Virginia 22320-4850**  
**Telephone: (703) 836-6400**

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